

## **SELF-TUNING VARACTOR SYSTEM**

### **Abstract**

5           In one embodiment, the present invention provides a system including a  
varactor and a voltage generator. The varactor includes a set of substantially  
equal voltage-tunable capacitor cells, each having a capacitive range that varies  
with a first plurality of operating parameters and each providing a capacitance  
within the range based on a voltage level of a reference voltage. The voltage  
10 generator is configured to provide the reference voltage, wherein the voltage  
level of the reference voltage corresponds to a desired capacitance within the  
capacitive range and varies based on a second plurality of operating parameters  
which are substantially the same as the first plurality of operating parameters,  
and wherein the voltage level of the reference voltage causes each capacitor cell  
15 to provide the desired capacitance.